

$\omega_p$  [rad/sec] = 6,28E+009  
 $\omega_{n2}$  = 1,41E+007  
 $\zeta$  = 1,4071  
one time step = min( $\tau_i$ ;  $\tau_z$ ) / = 40  
Comparator range [rad] = 3,14E+000  
 $G_f$  = Filter HF gain [V/rad] = 3,00E-001  
Filter (linear) range [+/- V] = 1,00E+000

$\omega_p \cdot \omega_p$  [ppm] = 20000  
 $\tau_z$  = 2,00E-007  
 $G$  = 3,96E+007  
Note:  $G\phi$  [rad/rad] = 0,09549297  
 $G_{VCO}$  = VCO Gain = 1,38E+009  
 $\Delta t$  [sec] = 6,31E-010  
VCO drive range = -1,00000

$(\omega_{max} - \omega_{min})/2$  [ppm] = 2,00E+005  
 $\omega_z$  = 5,00E+006  
 $\tau_1$  = 2,53E-008  
Transit. density ( 0 to 1 ) : 60%  
[rad/(sec\*volt)]  
 $\omega_{plp}$  (  $\omega_{plp} \gg \omega_z$  ) = 2,00E+008  
+1,00000000 [volt]

Input Ramp			Input Sinusoid		
Start time [norm. time]	Initial Step [rad]	Ramp Slope [rad/sec]	Start time [norm.time]	Angular Frequency	Amplitude [rad]
100	1,800	-4,00E+006	2000	4,00E+007	7,85E-001

A quadrature signal is T/4 early:  $t \rightarrow t + T/4$   
In this simulation, instead of anticipating the clock (not available) the incoming signal is anticipated by the T/4 amount.

Acquisition transient of the 2nd order type 2 PLL  
3000 discrete time points, bang-bang PFD

